

Part I.

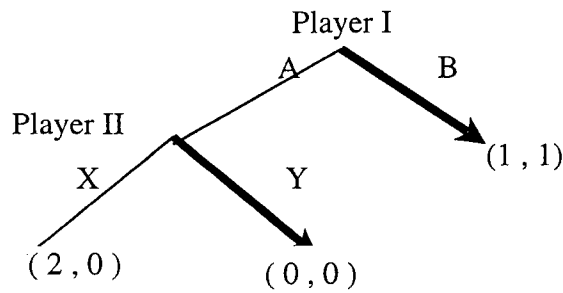
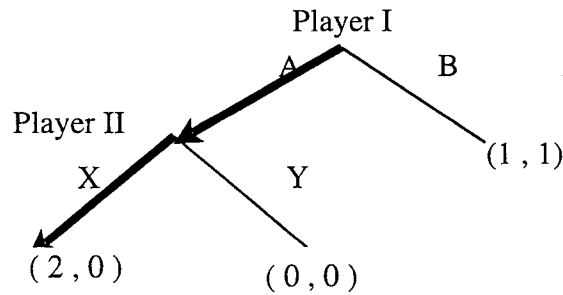
	2a	2b
1a	1, 1	100, 0
1b	0, 100	100, 100

- a. PSNE: (1a, 2a) (1b, 2b)
- b. Prediction: (1a, 2a)
- c. NE can be eliminated. In this case, a NE with higher payoffs for both players is eliminated.

	X	Y
A	2*, 0*	0, 0*
B	1, 1*	1*, 1*

- e. PSNE: (A, X) (B, Y)

- f. SPNE: (A, X) (B, Y)



Answer key to Part II of the Midterm

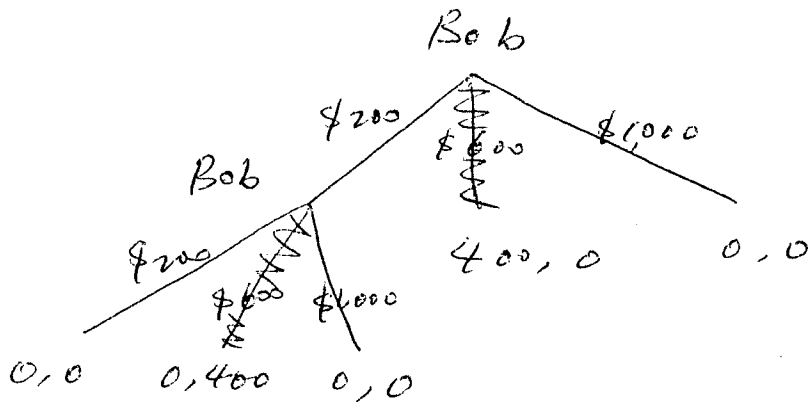
a. Strategic form:

		Alex		
		\$200	\$600	\$1,000
	\$200	0, 0	0, 400	0, 0
Bob	\$600	400, 0	0, 400	0, 0
	\$1,000	0, 0	0, 0	0, 0

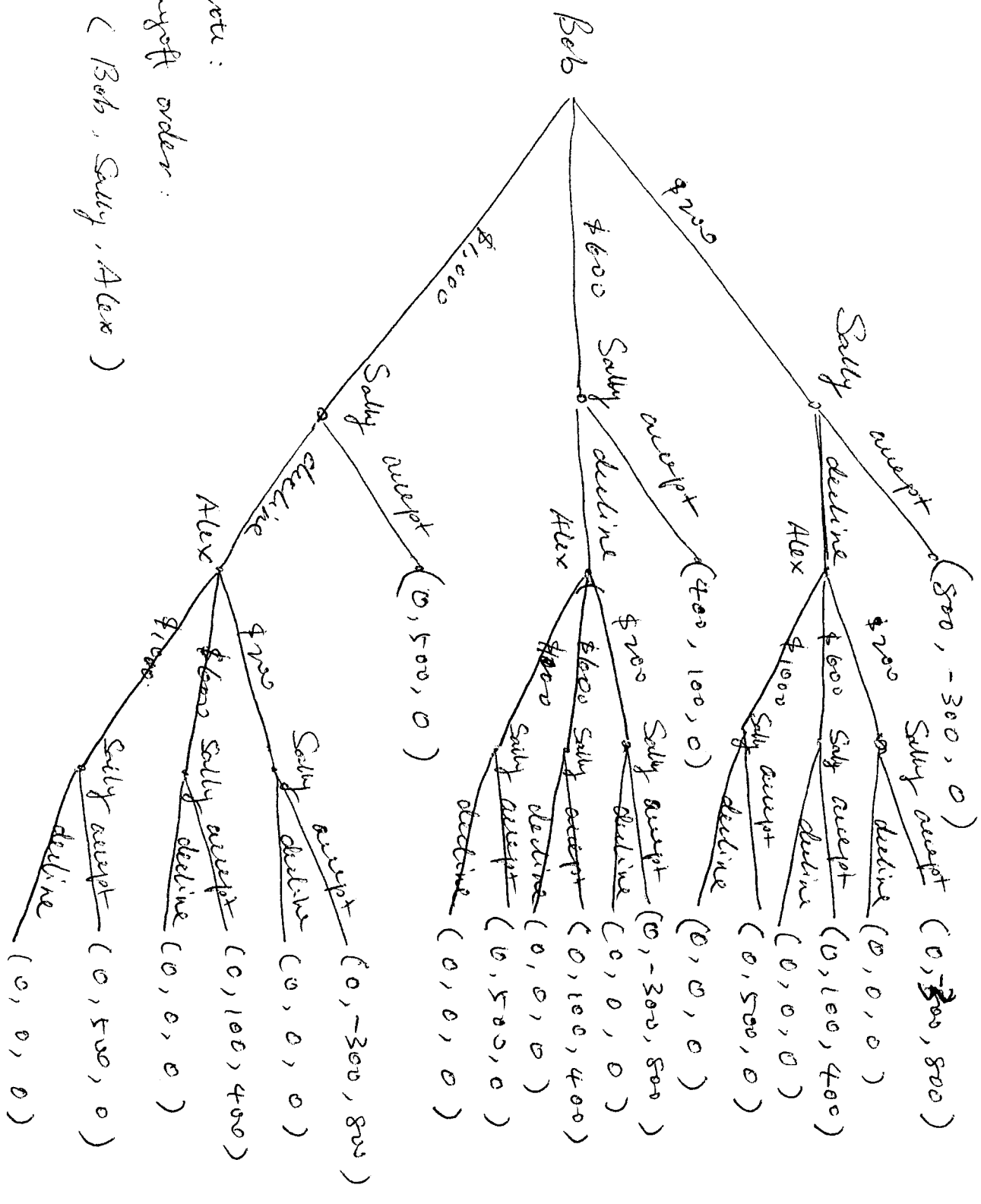
- 4 PSNE: (Bob \$200, Alex \$600)
 (Bob \$600, Alex \$600)
 (Bob \$1000, Alex \$600)
 (Bob \$1000, Alex \$1000)

MSNE: none

b. Correct answer 1:



Correct answer 2:

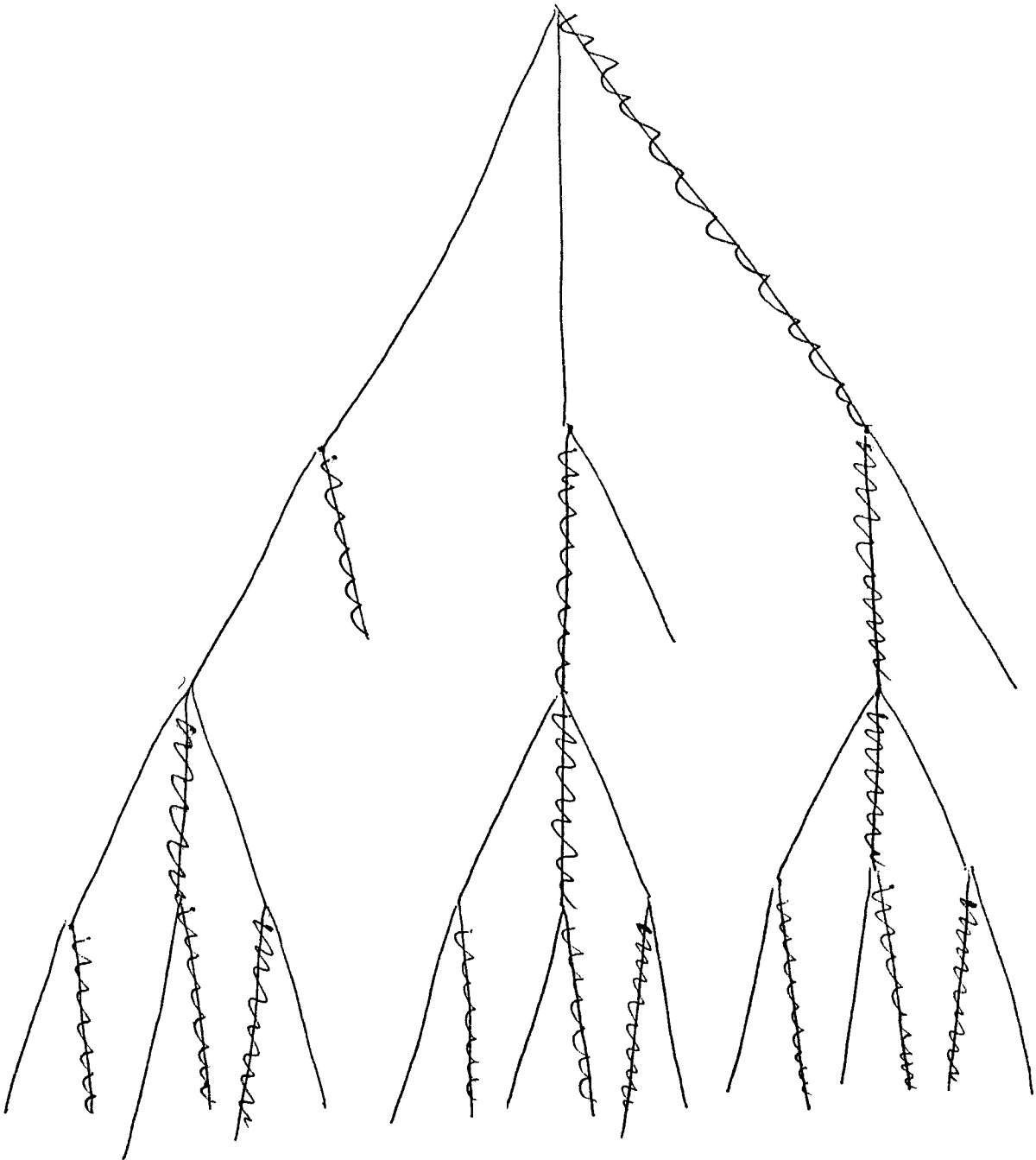


netu:

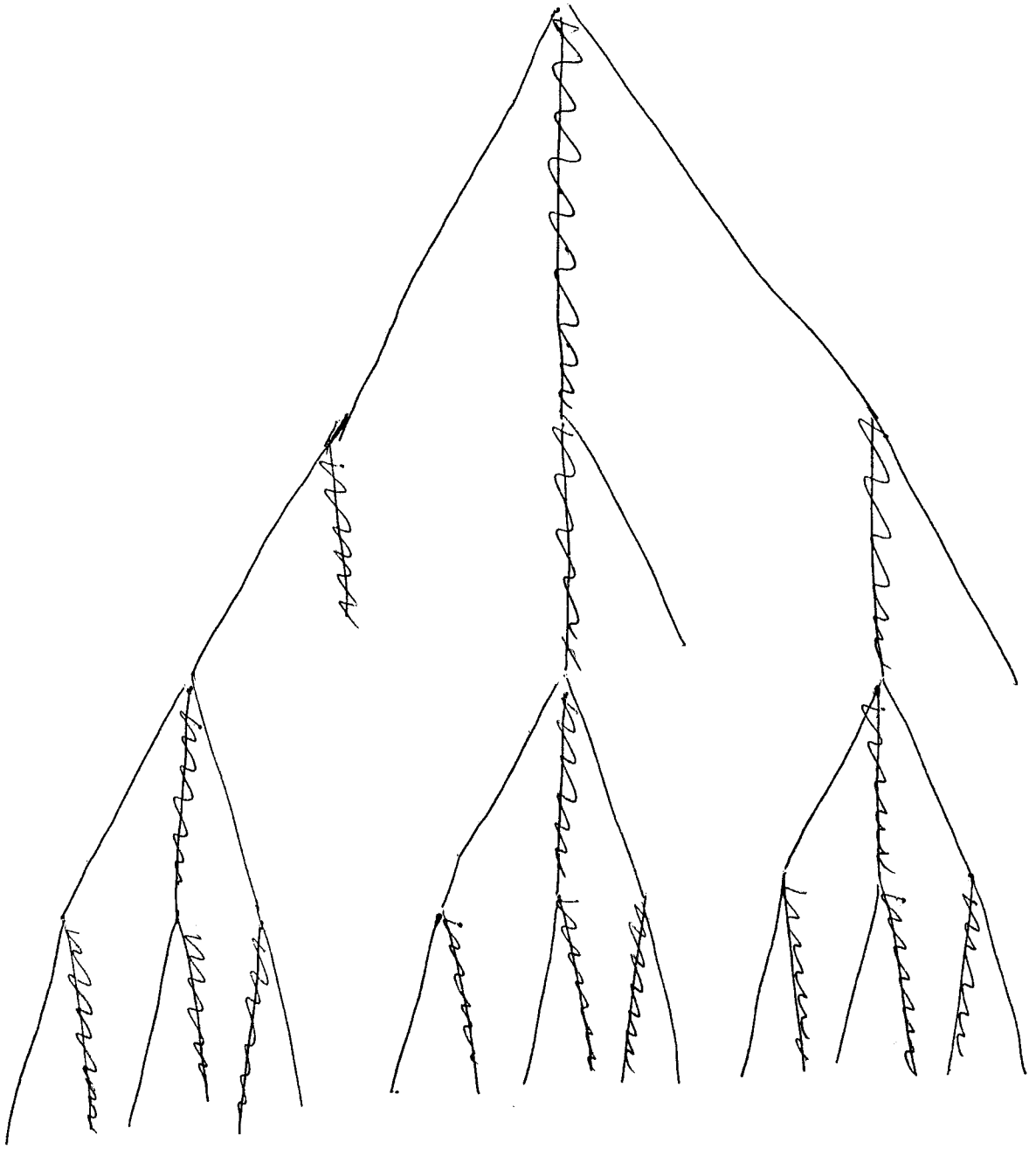
payoff order:

(Bob, Sally, Alex)

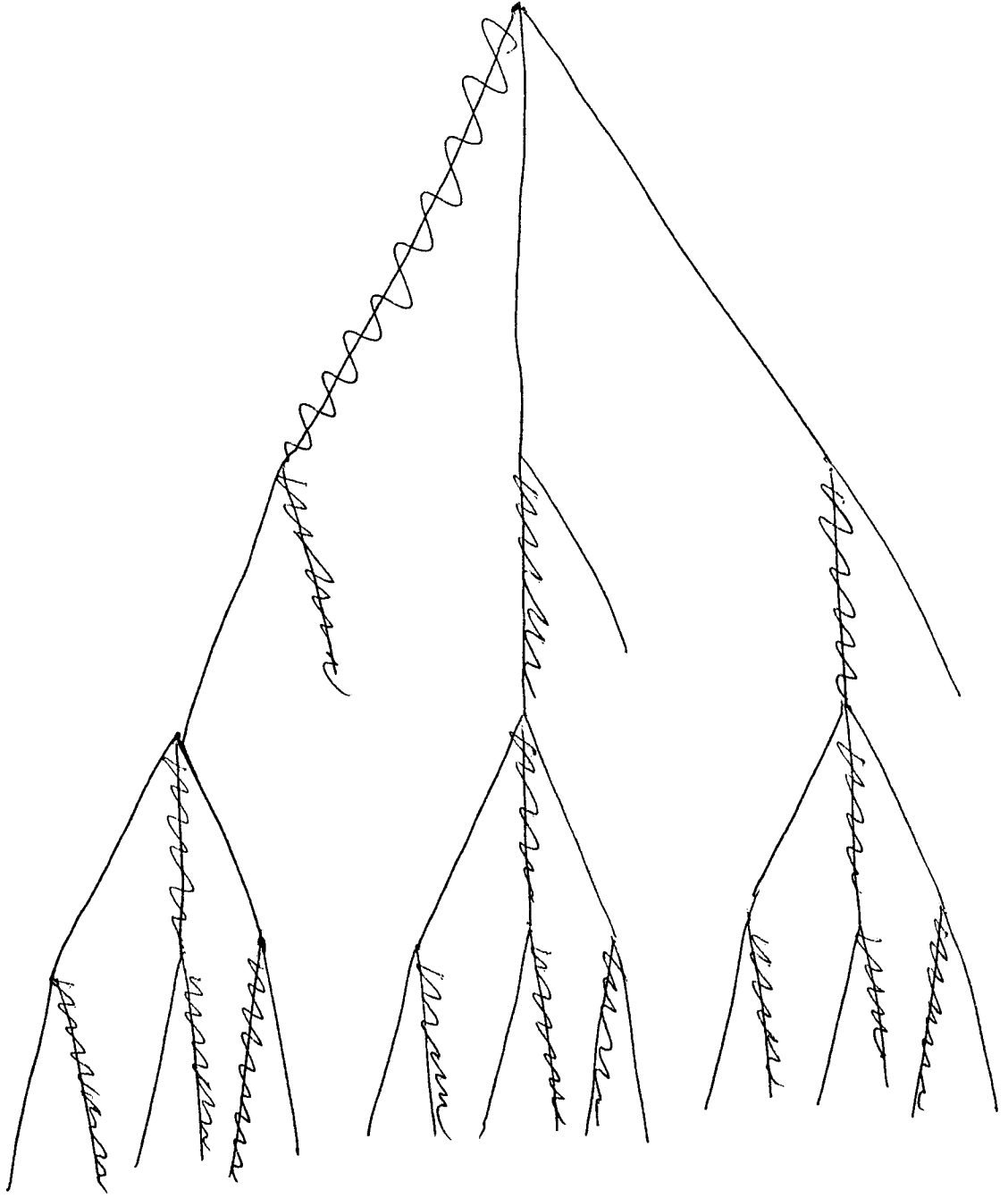
SPNE: ①



SPNE (2)



SPNE (3)



Part III

1)

		MICHELLE	
	q	1-q	
	issues	personalities	
	4, -4	-2, 2	
issues (p)			
STEVE			
personalities (1-p)	-3, 3	1, -1	

We have no pure NE.
The mixed NE is as follow:

$$4q - 2 + 2q = -3q + 1 - q$$

$$q = 3/10$$

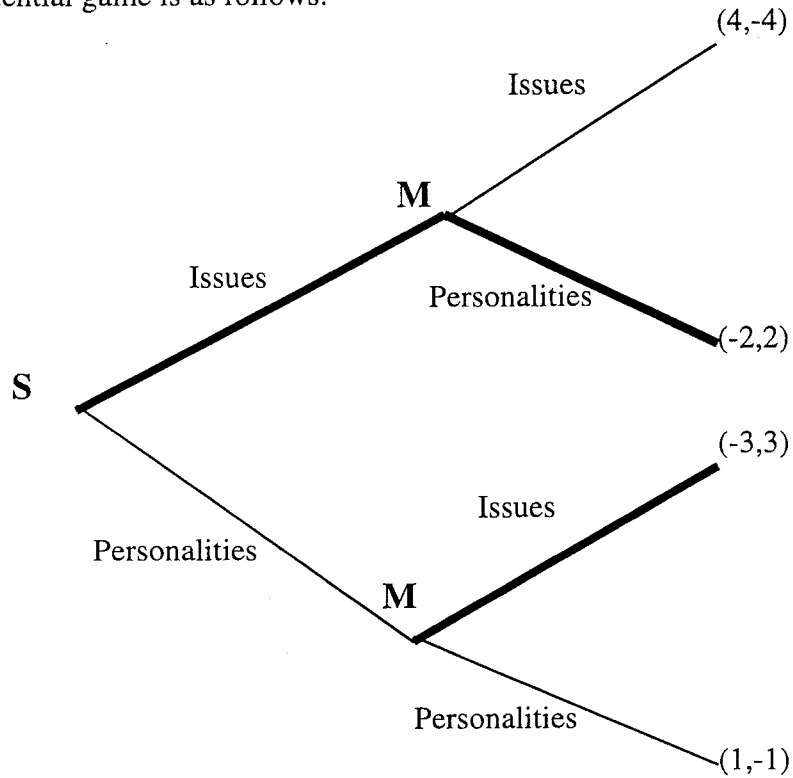
$$1 - q = 7/10$$

$$-4p + 3 - 3p = 2p - 1 + p$$

$$p = 2/5$$

$$1 - p = 3/5$$

2) The sequential game is as follows:



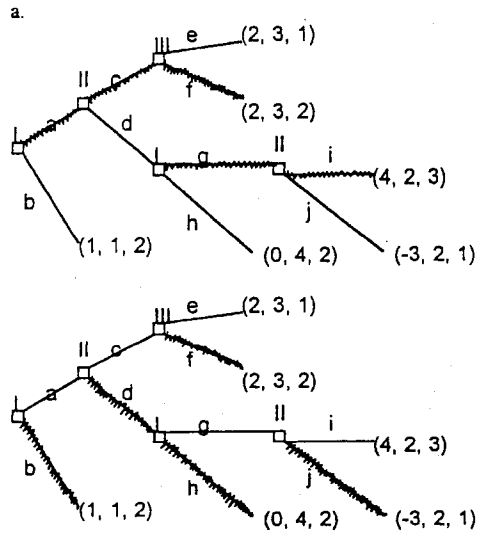
The SPNE: (Issues, Issues/ personalities)

		Michelle			
		P/P	P/I	I/P	I/I
Steve	P	1, -1	1, -1	-3, 3	-3, 3
	I	-2, 2	4, -4	-2, 2	4, -4

The SPNE is (I, I/P)

3) Michelle is better off choosing scenario (b) because she can see what her opponent is doing and pick the opposite strategy to win.

Part IV



b.
 I's strategies: ag, ah, bg, and bh.
 II's strategies: ci, cj, di, and dj.
 III's strategies: e and f

c.

		II			
		ci	cj	di	dj
I	ag	2, 3, 1	2, 3, 1	4, 2, 3	-3, 2, 1
	ah	2, 3, 1	2, 3, 1	0, 4, 2	0, 4, 2
	bg	1, 1, 2	1, 1, 2	1, 1, 2	1, 1, 2
	bh	1, 1, 2	1, 1, 2	1, 1, 2	1, 1, 2

		II			
		ci	cj	di	dj
I	ag	2, 3, 2	2, 3, 2	4, 2, 3	-3, 2, 1
	ah	2, 3, 2	2, 3, 2	0, 4, 2	0, 4, 2
	bg	1, 1, 2	1, 1, 2	1, 1, 2	1, 1, 2
	bh	1, 1, 2	1, 1, 2	1, 1, 2	1, 1, 2

e f

III

d.
 PSNE: (bg, dj, e), (bh, dj, e), (ag, ci, f), (ag, cj, f), (bg, dj, f), and (bh, dj, f).
 SPNE: (ag, ci, f) and (bh, dj, f).